



CLEAN BAY BLUEPRINT

Stormwater Pollution Prevention for Construction Projects

This *Clean Bay Blueprint* is an introductory guide to stormwater quality control on construction sites. It contains several principles and techniques that you can use to help prevent stormwater pollution. The Bay Area Stormwater Management Agencies Association (BASMAA) and the City of Fremont have developed these guidelines as a resource for all general contractors, home builders, and subcontractors working on construction sites.

Stormwater pollution is a major source of water pollution in California. It can cause declines in fisheries, disrupt habitats, and limit water recreation activities. Even more importantly, stormwater pollution poses a serious threat to the overall health of the ecosystem.

Common sources of pollutants from construction sites include: sediments from soil erosion; construction materials, stockpiles and waste (e.g., paint, solvents, concrete, drywall); and spilled oil, fuel, and other fluids from construction vehicles and heavy equipment.

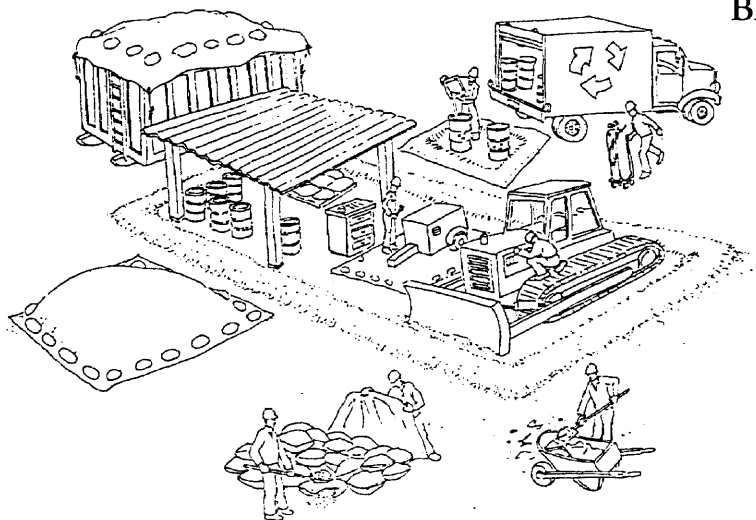
In Fremont, the storm drain system consists of gutters, storm drains, underground pipes, open channels, culverts and creeks. Storm drain systems are designed to drain directly to the Bay with no treatment.

Fremont and the other municipalities in the Bay Area are required by the Federal Clean Water Act to develop stormwater management programs that include requirements for construction activities. Your construction project will need to comply with local municipal requirements (ord. 2012). If your construction activity will disturb five acres or more, you must also obtain coverage under the General Construction Activity Permit issued by the State Water Resources Control Board. In 2003 this requirement will pertain to one acre sites or larger.

Train your employees and inform subcontractors about the stormwater requirements and their own responsibilities.

The property owner and the contractor are responsible for all activities at your site, including activities by your subcontractors and employees. Any violations of Federal, State or local laws are subject to fines.

BMPs = Best Management Practices



Useful Phone Numbers

Spill Response Agencies

Dial 911 for Hazardous Materials Spills

City of Fremont Environmental Services	(510) 494-4740
City of Fremont Maintenance	(510) 713-5700
Union Sanitary District	(510) 477-7500

Local Recyclers and Disposal Services

Browning-Ferris Industries (BFI)	(510) 657-3500
Alameda County Recycling Hotline	1(877) STOPWASTE

City of Fremont/Alameda County

City of Fremont Website	http://www.fremont.gov
Development Services Center (Planning, Building Permits and Code Enforcement)	(510) 494-4460
Fire Department (Hazardous Materials)	(510) 494-4279
Environmental Services Division (Solid Waste and Urban Runoff)	(510) 494-4740
Engineering	(510) 494-4700
Alameda Countywide Clean Water Program	(510) 670-5543

***Call Environmental Services at (510) 494-4740 before dewatering
and/or pumping into storm drain systems.***

***Call Union Sanitary District at (510) 477-7500 before pumping
anything into the sanitary sewer system.***

For more information on Stormwater requirements, call the State Water Resources Control Board's Stormwater Information Line at (916) 657-1146, or Fremont's Environmental Services Division at (510) 494-4740.

Material Storage and Spill Clean Up BMPs

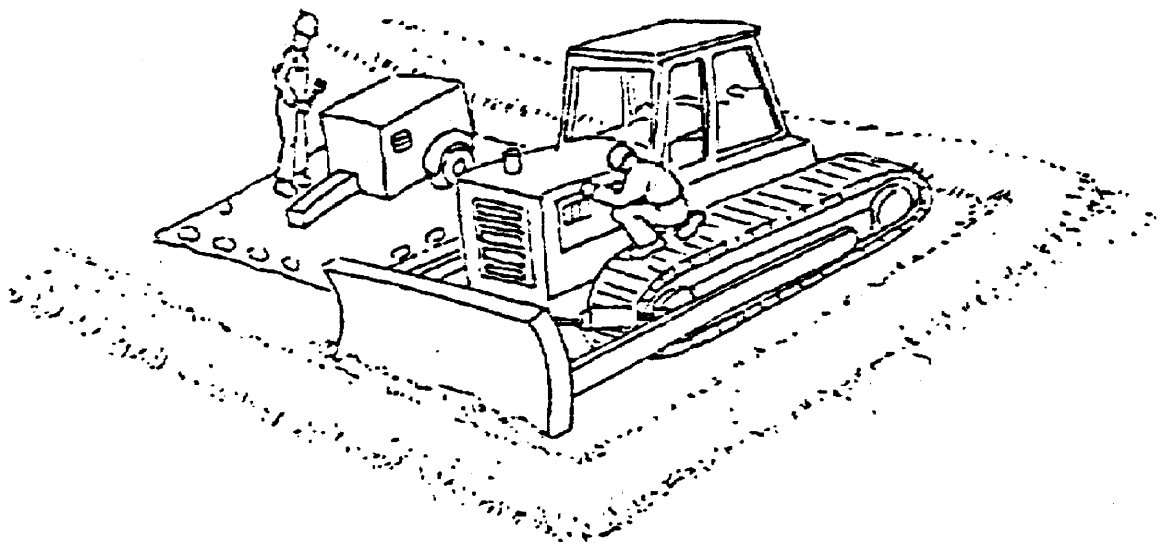
- ✓ Cover exposed piles of soil, construction materials and wastes with plastic sheeting or temporary roofs. Before it rains, sweep and remove materials from surfaces that drain to storm drains, creeks, or channels.
- ✓ Build berms around storage areas to prevent contact with runoff.
- ✓ Store containers of paints, chemicals, solvents, and other hazardous materials in accordance with secondary containment regulations and under cover during rainy periods.
- ✓ Cover open dumpsters with plastic sheeting or a tarp during rainy weather. Secure the sheeting or tarp around the outside of the dumpster. If your dumpster has a cover, close it.
- ✓ If a dumpster is leaking, contain and collect leaking material. Return the dumpster to the leasing company for repair or exchange.
- ✓ Sweep up spilled dry materials (for example cement, mortar, or fertilizer) immediately. Never attempt to “wash them away” with water, or bury them. Use only minimal water for dust control.
- ✓ Clean up liquid spills on paved or impermeable surfaces using “dry” cleanup methods (for example absorbent materials like cat litter, sand or rags). Have spill cleanup kits available.
- ✓ Clean up spills on dirt areas by digging up and properly disposing of the contaminated soil.

***Report significant spills to the appropriate spill response agencies immediately.
(see Useful Phone Numbers)***



Vehicle and Equipment Maintenance BMPs

- ✓ Maintain all vehicles and heavy equipment. Inspect frequently and repair leaks.
- ✓ Designate specific areas of the construction site, well away from creeks or storm drain inlets, for auto and equipment parking and routine vehicle and equipment maintenance.
- ✓ Perform major maintenance, repair jobs and vehicle and equipment washing off-site, when feasible, or in designated and controlled areas on-site.
- ✓ Use drip pans or drop cloths to catch drips and spills if you must drain and replace motor oil, radiator coolant, or other fluids on-site. Collect all spent fluids, store in labeled separate containers, and recycle whenever possible. Keep all fuels, oils and lubricants within secondary containment.
- ✓ Refuel vehicles and heavy equipment in one designated location on the site and ***clean up spills immediately.***
- ✓ Wash vehicles at an appropriate off-site facility. If equipment must be washed on-site, just use water and ***prevent water from entering the storm drain.*** Do not use soaps, solvents, degreasers, or steam cleaning equipment. Direct wash water to an area that will not flow to any storm drain inlets. The waste wash water can evaporate and/or infiltrate within this designated area.



Earth-Moving Activities and Erosion Control BMPs

- ✓ Avoid contaminating clean runoff from areas adjacent to your site by using berms and/or temporary or permanent drainage ditches to divert water flow around the site. Reduce stormwater runoff velocities by constructing temporary check dams and/or berms, where appropriate.
- ✓ Construct diversion dikes and drainage swales to channel runoff around the site.
- ✓ Use berms and drainage ditches to divert runoff around exposed areas. Place diversion ditches across the top of cut slopes.
- ✓ Plant vegetation on exposed slopes. Where replanting is not feasible, cover with erosion control blankets (for example mulch netting or matting of jute, straw, glass fiber or excelsior).
- ✓ Cover stockpiled soil and landscaping materials with secured plastic sheeting and divert runoff around them. Keep exposed stockpiles off of paved roadways, sidewalks and driveways.
- ✓ Protect drainage courses, creeks, or catch basins with backup measures such as silt fences and/or temporary drainage swales.
- ✓ Conduct routine inspections of all erosion and sediment control measures and repair when necessary. This is particularly critical before, during and immediately after rainstorms.
- ✓ Protect storm drain inlets from sediment-laden runoff. Storm drain inlet protection devices include barriers of burlap bags filled with *drain rock*, filter fabric fences, block and gravel filters, and excavated drop inlet sediment traps.
- ✓ Limit on-site construction routes and stabilize construction entrances. Prevent construction vehicles from tracking soil onto adjacent streets.
- ✓ Dry-sweep, where possible, to clean sediments from streets, driveways and paved areas on construction sites. If water must be used to flush pavement, collect runoff to settle out sediments and protect storm drain inlets.
- ✓ Prevent all debris, construction materials, soil, rock, etc. from being introduced into any storm drain or sanitary sewer structures.



Paints, Solvents and Adhesives BMPs

- ✓ Sweep up or collect non-hazardous paint chips and dust from dry stripping and sandblasting in plastic drop cloths and dispose of as trash. Dispose of chemical paint stripping residue and chips and dust from marine paints or paints containing lead or tributyl tin as hazardous waste.
- ✓ ***Never clean brushes or rinse paint containers into a street, gutter, storm drain, or creek.***
- ✓ For water-based paints, paint out brushes to the maximum extent possible and rinse to a drain leading to the sanitary sewer (i.e., indoor plumbing). Dried latex paint may be disposed of in the trash.

- ✓ For oil-based paints, paint out brushes to the maximum extent possible, and filter and reuse thinners and solvents. Dispose of unusable thinners and residue as hazardous waste.
- ✓ Unwanted paint (that is not recycled), thinners, and sludges must be disposed of as hazardous waste.

Have spill cleanup kits available.



Concrete, Cement and Mortars BMPs

- ✓ Avoid mixing excess amounts of fresh concrete or cement mortar on-site.
- ✓ Wash out concrete transit mixers only in designated wash-out areas where the water will flow into settling ponds or onto dirt or stockpiles of aggregate base or sand. Whenever possible, recycle washout by pumping back into mixers for reuse.

- ✓ ***Never dispose of washout into the street, storm drains, drainage ditches, gutters, or creeks.***
- ✓ Whenever possible, return contents of mixer barrel to the yard for recycling. Dispose of small amounts of excess concrete, grout, and mortar in the trash.

Roadwork and Pavement Construction BMPs

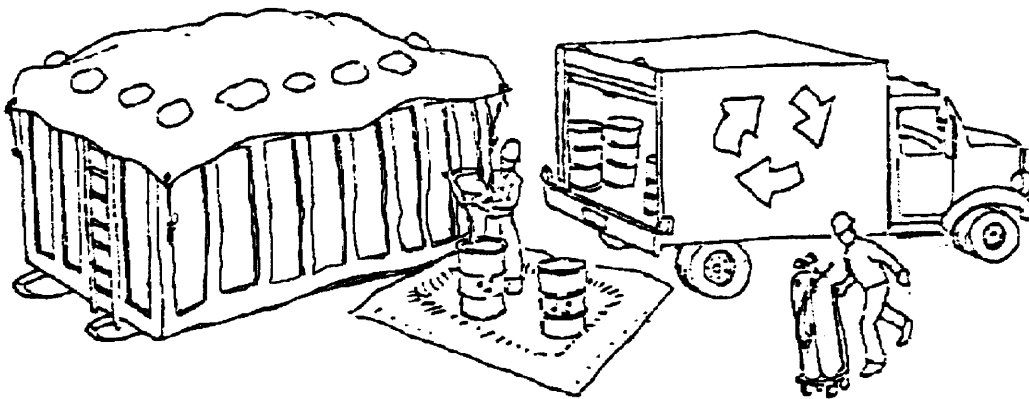
- ✓ Apply concrete, asphalt, and seal coat during dry weather to prevent contaminants from contacting stormwater runoff.
- ✓ Cover storm drain inlets and manholes when paving or applying seal coat, slurry seal, fog seal, etc.
- ✓ Always park paving machines over drip pans or absorbent materials, since they tend to drip continuously. Do not spray diesel fuel to prevent asphalt build up on equipment. Use alternatives, such as citrus-based products.
- ✓ Use as little water as possible when making saw-cuts in pavement. Contain the slurry by placing sandbags, or temporary berms as close to the saw-cuts as possible. Vacuum “wet”, or allow slurry to dry and shovel.
- ✓ Wash down exposed aggregate concrete only when the wash water can:
 - (1) Flow onto a dirt area;
 - (2) Drain onto a bermed surface from which it can be pumped and disposed of properly; or
 - (3) Be vacuumed from a catchment created by blocking a storm drain inlet. If necessary, divert runoff with temporary berms. Make sure runoff does not reach gutters or storm drains.
- ✓ ***Never wash sweepings from exposed aggregate concrete into a street or storm drain.*** Collect and return to aggregate base stockpile, or dispose with trash.

Update pollution prevention measures as construction phases change or are completed.




Waste Disposal BMPs

- ✓ Keep pollutants off exposed surfaces. Place trash cans and recycling containers around the site to reduce litter. Dispose of non-hazardous construction wastes in covered dumpsters or recycling receptacles.
- ✓ Recycle leftover materials whenever possible. Materials such as concrete, asphalt, scrap metal, solvents, degreasers, cleared vegetation, paper, rock, and vehicle maintenance materials (e.g. used oil, antifreeze, batteries, and tires) are recyclable.
- ✓ Dispose of all wastes properly. Materials that cannot be reused or recycled must be taken to an appropriate landfill or disposed of as hazardous waste.
- ✓ *Never throw or dispose of debris into channels, creeks or into wetland areas. Never store or leave debris in the street or near a creek where it may contact runoff.*
- ✓ Illegal dumping is a violation subject to a fine and/or time in jail. Be sure that trailers carrying your materials are covered during transit. If not, the hauler may be cited and fined.
- ✓ Do not dispose of plant material in a creek or drainage facility or leave it in a roadway where it can clog storm drain inlets.
- ✓ Avoid disposal of plant material in trash dumpsters or mixing it with other wastes. Compost plant material or separate and take it to a landfill or other facility that composts yard waste.
- ✓ Check with the Fire Department with questions on proper storage of hazardous materials.
- ✓ Protect all wastes from rainwater and runoff. Check drop boxes and dumpsters for leaks; repair or replace leaking containers promptly.



CLEAN BAY BLUEPRINT

Source courtesy of the City of San José


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